Amendments to the claims are reflected in the listing of claims which begins on page 3 of this paper.

Remarks begin on page 10.

This listing of the claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for assessing muscle damage in a subject, comprising evaluating for the presence or absence of a myofilament protein modification product in a biological sample obtained from a subject being assessed for muscle damage, wherein the presence of the myofilament protein modification product in the biological sample is associated with muscle damage.

Claim 2 (previously amended): The method of claim 1, wherein the evaluating step comprises assessing the amount of the myofilament protein modification product present in the biological sample, as an indication of the extent of muscle damage in the subject.

Claim 3 (original): The method of claim 1, wherein the evaluating step comprises detecting the presence of at least two different myofilament protein modification products in the biological sample.

Claim 4 (previously amended): The method of claim 3, comprising assessing the amounts of said at least two different

myofilament protein modification products present in the biological sample, and comparing the amounts as an indication of the extent of muscle damage in the subject.

Claim 5 (previously amended): A method for assessing muscle damage in a subject, comprising evaluating for the presence or absence of at least two different myofilament protein modification products in a biological sample wherein said at least two different myofilament protein modifications products are from the same protein.

Claim 6 (original): The method of claim 3, wherein said at least two different myofilament protein modification products are from different proteins.

Claim 7 (previously amended): The method of claim 6, comprising assessing the ratio of said at least two different myofilament protein modification products, as an indication of the extent of muscle damage in the subject.

Claim 8 (previously amended): The method of claim 1, wherein evaluating for the presence or absence of a myofilament protein modification product comprises incubating the biological sample with a compound which specifically binds to the myofilament protein modification product, under condition which allow the compound to form a complex with the myofilament protein

modification product, and detecting the complex.

Claim 9 (original): The method of claim 8, wherein the compound is selected from the group consisting of an antibody, a functional fragment of an antibody, a protein, a protein fragment, a peptide, and a peptidomimetic.

Claim 10 (original): The method of claim 8, wherein the complex is detected by assaying for the presence of a label.

Claim 11 (original):The method of claim 8, wherein the compound is labeled with an enzyme which is detected by measuring enzymatic activity associated therewith.

Claim 12 (original): The method of claim 11, wherein the enzyme is selected from the group consisting of alkaline phosphatase, horseradish peroxidase, luciferase, beta-galactosidase, lysozyme, glucose-6-phosphate dehydrogenase, lactate dehydrogenase, and urease.

Claim 13 (original): The method of claim 8, wherein the compound is immobilized on a solid phase.

Claim 14 (original): The method of claim 13, wherein the solid phase is a plastic surface.

Claim 15 (original): The method of claim 1, wherein the muscle is selected from the group consisting of cardiac muscle

and skeletal muscle.

Claim 16 (original): The method of claim 15, wherein the muscle damage is reversible.

Claim 17 (previously amended): The method of claim 16, wherein the muscle damage is due to at least one condition selected from the group consisting of hypoxia, hypoxemia, ischemia, fatigue and reperfusion.

Claim 18 (original): The method of claim 15, wherein the muscle damage is irreversible.

Claim 19 (original): The method of claim 18, wherein the muscle damage is due to at least one condition selected from the group consisting of hypoxia, hypoxemia, ischemia, and reperfusion.

Claim 20 (original): The method of claim 1, wherein the myofilament protein modification product is from at least one myofilament protein selected from the group consisting of troponin 1, troponin T, troponin C, α-actinin, and myosin light chain 1.

Claim 21 (original): The method of claim 1, wherein the myofilament protein modification product is a covalent complex comprising at least two polypeptides, at least one of said polypeptides being an intact protein or a fragment of a protein

selected from the group consisting of troponin I, troponin T, troponin C, α-actinin, and myosin light chain 1.

Claim 22 (original): The method of claim 8, wherein the muscle is cardiac muscle and the myofilament protein modification product in troponin I.

Claim 23 (original): The method of claim 22, wherein the compound binds to a region of troponin I comprising all or a portion of the amino acid sequence from residue 194 to residue 210.

Claim 24 (original): The method of claim 22, wherein the compound binds to a region of troponin I comprising all or a portion of the amino acid sequence from residue 1 to residue 193.

Claim 25 (original): The method of claim 8, wherein the myofilament protein is myosin light chain 1.

Claim 26 (original): The method of claim 25, wherein the compound binds to a region of myosin light chain 1 comprising all or a portion of the amino acid sequence from residue 20 to residue 199.

Claim 27 (original): The method of claim 25, wherein the compound binds to a region of myosin light chain 1 comprising all or a portion of the amino acid sequence from residue 1 to residue 19.

Claim 28 (original): The method of claim 1, wherein the biological sample is selected from the group consisting of cardiac muscle tissue, a component of cardiac muscle tissue, blood, blood serum, skeletal muscle tissue, a component of skeletal muscle tissue, and urine.

Claims 29-52 (canceled)

Claim 53 (currently amended): A method for assessing muscle damage in a subject, comprising evaluating for the presence or absence of a myofilament protein modification product in a biological sample obtained from a subject being assessed for muscle damage, wherein the presence of the myofilament protein modification product in the biological sample is associated with muscle damage and wherein said myofilament protein modification product comprises a peptide fragment of a myofilament protein.

Claim 54 (previously added): The method of claim 53 wherein the peptide fragment is selected from the group consisting of a peptide fragment of α- actinin, a carboxyl-terminal region of troponin I, an amino-terminal region of troponin I, a peptide fragment of troponin T, and a peptide fragment of myosin light chain 1.

Claim 55 (previously added): A method for assessing muscle damage in a subject, comprising evaluating for the presence or

absence of a myofilament protein modification product in a biological sample obtained from a subject being assessed for muscle damage wherein said myofilament protein modification product comprises a covalent complex of two intact proteins or protein fragments.